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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,573

08/20/2003

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EXAMINER

QUARTERMAN, KEVIN J

ART UNIT

PAPER NUMBER

2889

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/644,573	<b>Applicant(s)</b> HAYASHI, KENJI	
	<b>Examiner</b> Kevin Quarterman	<b>Art Unit</b> 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment and remarks received on 07 May 2008 have been entered.

### ***Allowable Subject Matter***

2. The indicated allowability of claims 1-12 and 22-24 is withdrawn in view of the newly discovered reference(s) to Aziz (US 6,841,932). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura (US 6,924,594) in view of Aziz (US 6,841,932).
5. Regarding independent claim 1, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) disposed over the first electrodes; a second electrode (209) disposed over the electroluminescent layers and having a first surface; and a barrier layer (210) having a second surface that includes an inorganic compound (col. 7, ln. 44-47), the second surface of the barrier layer being in direct contact with the first surface of the second electrode.

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6. Ogura teaches the limitations of independent claim 1 discussed earlier but fails to exemplify the first surface of the second electrode including an inorganic oxide.

7. In Figure 15, Aziz teaches that it is known in the art to provide electroluminescent devices with a first electrode (830) and a second electrode (850) disposed over an electroluminescent layer (840) and having a first surface that includes an inorganic oxide (col. 5, ln. 61-67; col. 6, ln. 1-21). Aziz discloses that this structure may be provided for preventing the permeation of ambient moisture to the device (col. 5, ln. 10-15).

8. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the first surface of the second electrode of Ogura including an inorganic oxide, as taught by Aziz, for preventing the permeation of ambient moisture to the device.

9. Regarding claim 2, Ogura teaches the limitations of independent claim 1 discussed earlier but fails to exemplify the second electrode including indium tin oxide or indium zinc oxide.

10. Aziz teaches that it is known in the art to provide electroluminescent devices with a second electrode including indium tin oxide or indium zinc oxide (col. 19, ln. 12-15).

Aziz discloses that this structure is provided for enhancing stability (col. 19, ln. 16-23).

11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made provide second electrode of Ogura including indium tin oxide or indium zinc oxide, as taught by Aziz, for enhancing stability in the device.

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12. Regarding claim 3, Figure 2 of Ogura shows the second electrode covering side faces and upper faces of the electroluminescent layer.

13. Regarding claim 4, Figure 2 of Ogura shows the barrier layer (211) including at least one sublayer (210) composed of a silicon compound (col. 7, ln. 44-47).

14. Regarding claim 5, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon oxide (col. 7, ln. 44-47).

15. Regarding claim 6, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon nitride (col. 7, ln. 44-47).

16. Regarding claim 7, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon nitride oxide (col. 9, ln. 38-40; col. 18, ln. 11-22).

17. Regarding claim 8, Figure 2 of Ogura shows an insulating layer (214) disposed around the second electrode, the insulating layer being composed of a silicon compound (col. 6, ln. 45), and the barrier layer extending to the insulating layer.

18. Regarding claim 9, Figure 2 of Ogura shows a protective layer covering the barrier layer (213).

19. Regarding claim 10, Figure 2 of Ogura shows an adhesive layer (211) disposed between the barrier layer and the protective layer.

20. Regarding claim 11, Ogura discloses the adhesive layer including a material that is softer than that of the protective layer (col. 2, ln. 52-66).

21. Regarding claim 12, Figure 14 of Ogura shows an electronic apparatus comprising the electroluminescent device of claim 1.

22. Regarding independent claim 22, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) disposed over the first electrodes; a second electrode (209) being disposed over the electroluminescent layers; and a barrier layer (210) including an inorganic compound (col. 7, ln. 44-47).

23. Ogura teaches the limitations of independent claim 22 discussed earlier but fails to exemplify the second electrode including an inorganic oxide.

24. In Figure 15, Aziz teaches that it is known in the art to provide electroluminescent devices with a first electrode (830) and a second electrode (850) disposed over an electroluminescent layer (840) that includes an inorganic oxide (col. 5, ln. 61-67; col. 6, ln. 1-21). Aziz discloses that this structure may be provided for preventing the permeation of ambient moisture to the device (col. 5, ln. 10-15).

25. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the second electrode of Ogura including an inorganic oxide, as taught by Aziz, for preventing the permeation of ambient moisture to the device.

26. Regarding independent claim 23, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) disposed over the first electrodes; a second electrode being disposed over the electroluminescent

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layers; and a barrier layer (210) being disposed on the second electrode and including silicon compound (col. 7, ln. 44-47).

27. Ogura teaches the limitations of independent claim 22 discussed earlier but fails to exemplify the second electrode including an inorganic oxide.

28. In Figure 15, Aziz teaches that it is known in the art to provide electroluminescent devices with a first electrode (830) and a second electrode (850) disposed over an electroluminescent layer (840) that includes an inorganic oxide (col. 5, ln. 61-67; col. 6, ln. 1-21). Aziz discloses that this structure may be provided for preventing the permeation of ambient moisture to the device (col. 5, ln. 10-15).

29. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the second electrode of Ogura including an inorganic oxide, as taught by Aziz, for preventing the permeation of ambient moisture to the device.

30. Regarding independent claim 24, Figure 2 of Ogura shows an electroluminescent device comprising anodes (202); electroluminescent layers (207) disposed over the anodes; a cathode (208/209) being disposed over the electroluminescent layers; and a barrier layer (210) including an inorganic compound (col. 7, ln. 44-47).

31. Ogura teaches the limitations of the independent claim 24 discussed earlier but fails to exemplify the cathode including an inorganic conductive oxide.

32. In Figure 15, Aziz teaches that it is known in the art to provide electroluminescent devices with an anode (830) and a cathode (850) disposed over an electroluminescent layer (840) that includes an inorganic oxide (col. 5, ln. 61-67; col. 6, ln. 1-21). Aziz

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discloses that this structure may be provided for preventing the permeation of ambient moisture to the device (col. 5, ln. 10-15).

33. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the cathode of Ogura including an inorganic oxide, as taught by Aziz, for preventing the permeation of ambient moisture to the device.



***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571)272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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3 September 2008